

**Abstract**

An electric arc welder with a waveform generator controlled to create a welding process involving current flow between an electrode and a workpiece wherein the welding process comprises a succession of pulse waveforms, each having a current ramp up portion, a peak current portion, a current ramp down portion and a background current portion, a voltage sensing circuit to sense a short circuit between the electrode and the workpiece and a reset circuit to reset the waveform generator upon sensing of a short circuit. The preferred electrode is a solid wire which may be in the form of a metal cored wire.